

EPA Ley Creek Local Sediment Disposal Options

Cooper Crouse-Hinds

July 3, 2014

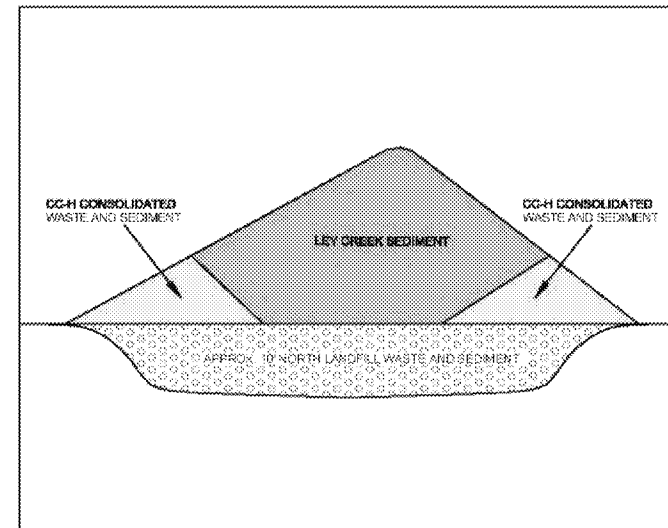
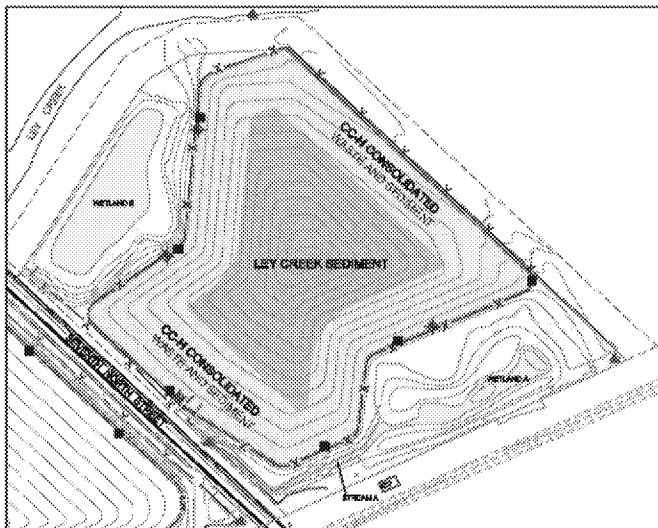
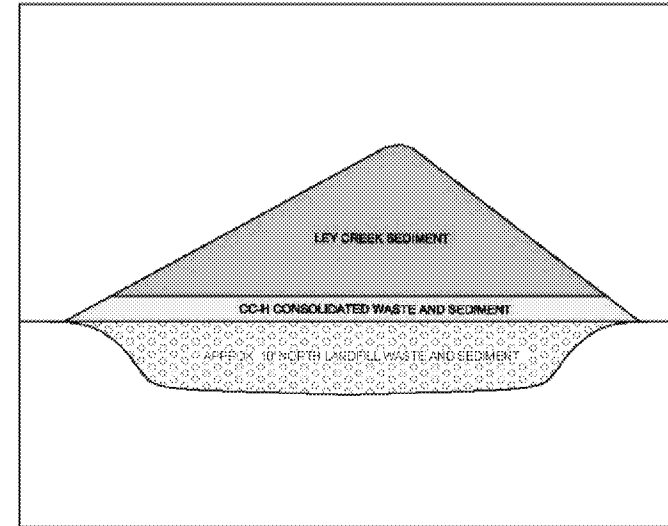
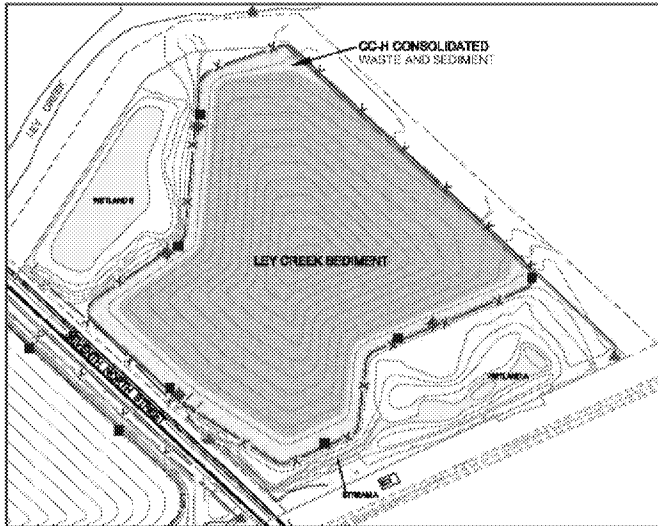
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Summary of Local Disposal Options

- **CC-H North Landfill Proposal (Including Leachate Collection System)**
 - Total Capital Costs \$ 1,711,000
 - Total O&M Costs \$ 559,255 for 30 years NPV
 - **Total Estimated Costs \$ 2,270,255**
- **Town of Salina Landfill June 6, 2014 Proposal (Including Leachate Collection Trench)**
 - Total Capital Costs \$ 4,556,600
 - Total O&M Costs \$ 2,715,530 for 30 years NPV
 - **Total Estimated Costs \$ 7,272,130**

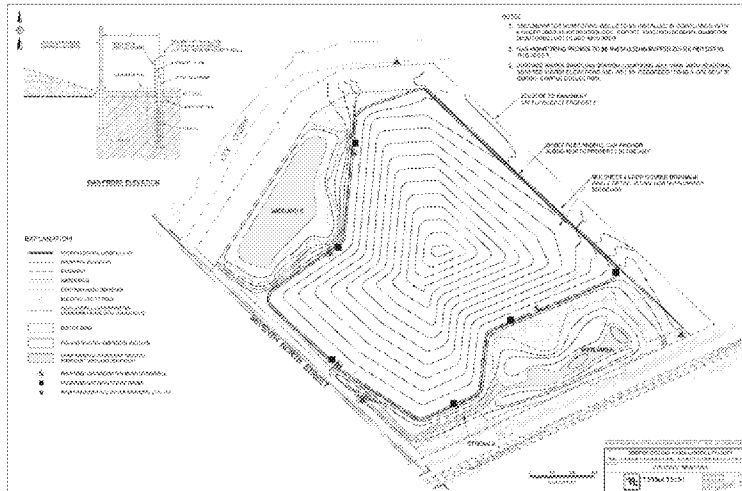
Conceptual CC-H North Landfill Designs Incorporating Ley Creek Sediment Plan View and Cross Sectional Landfill View



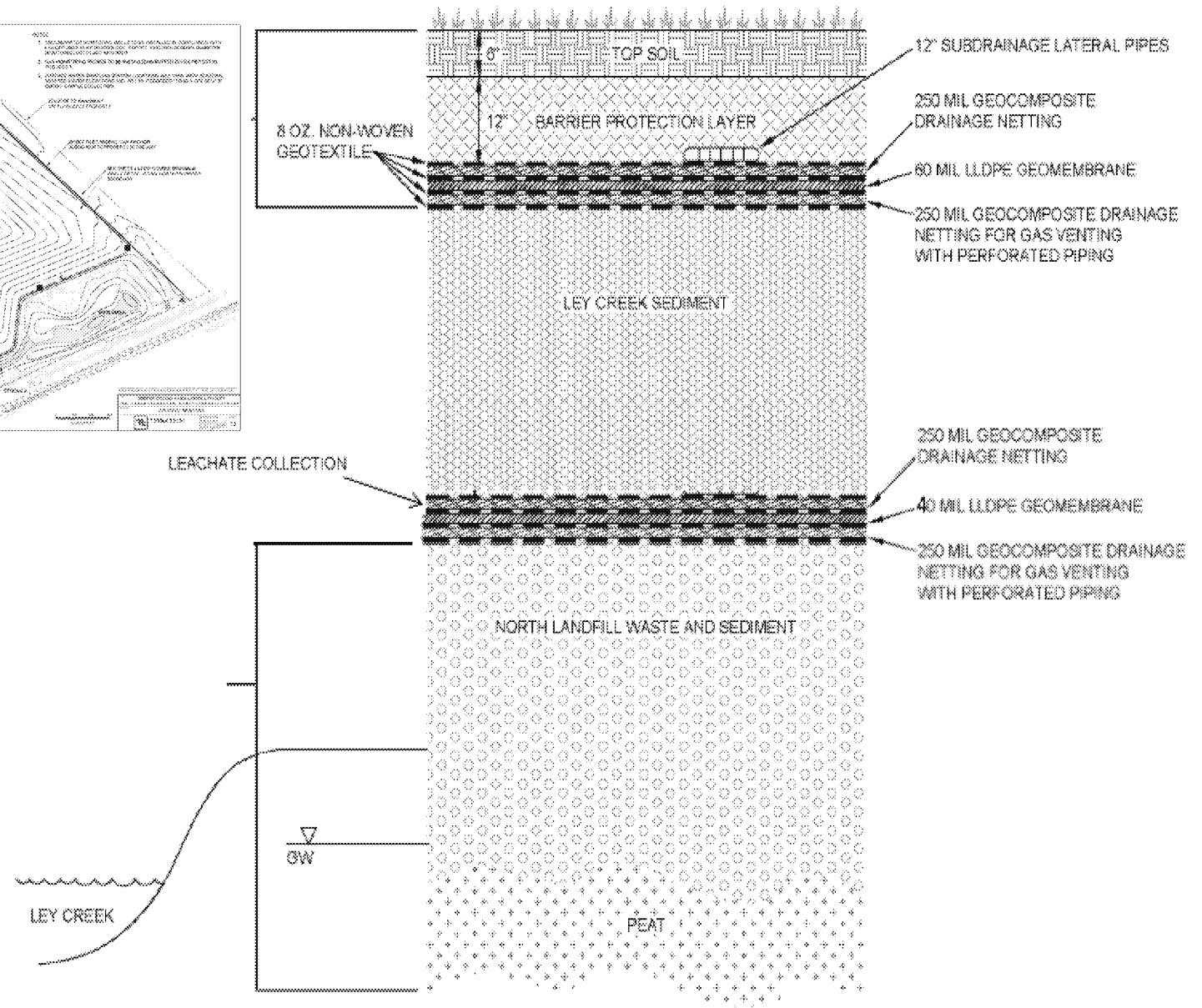
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CC-H North Landfill with Leachate Collection System

Plan View



CROSS SECTION



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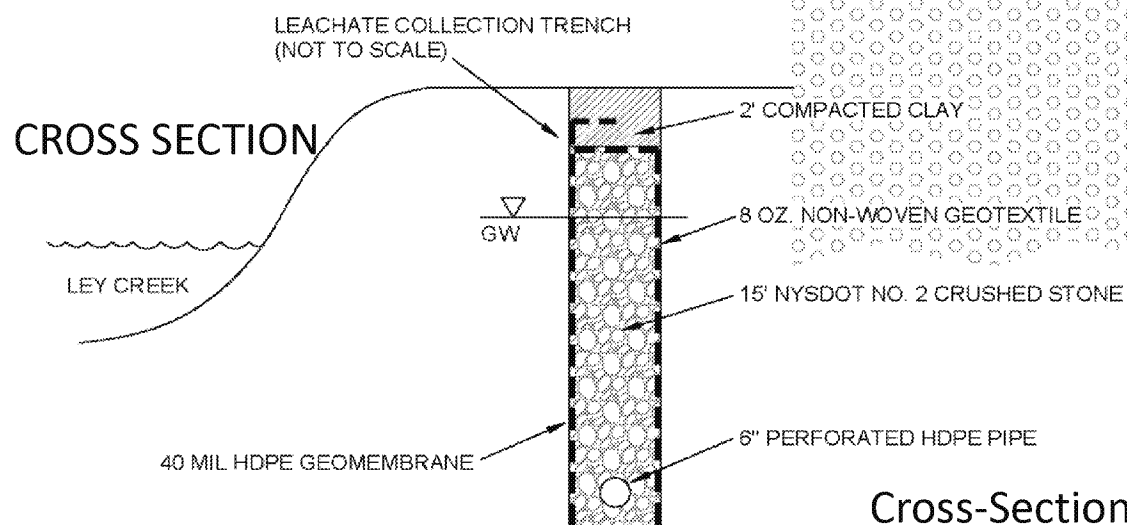
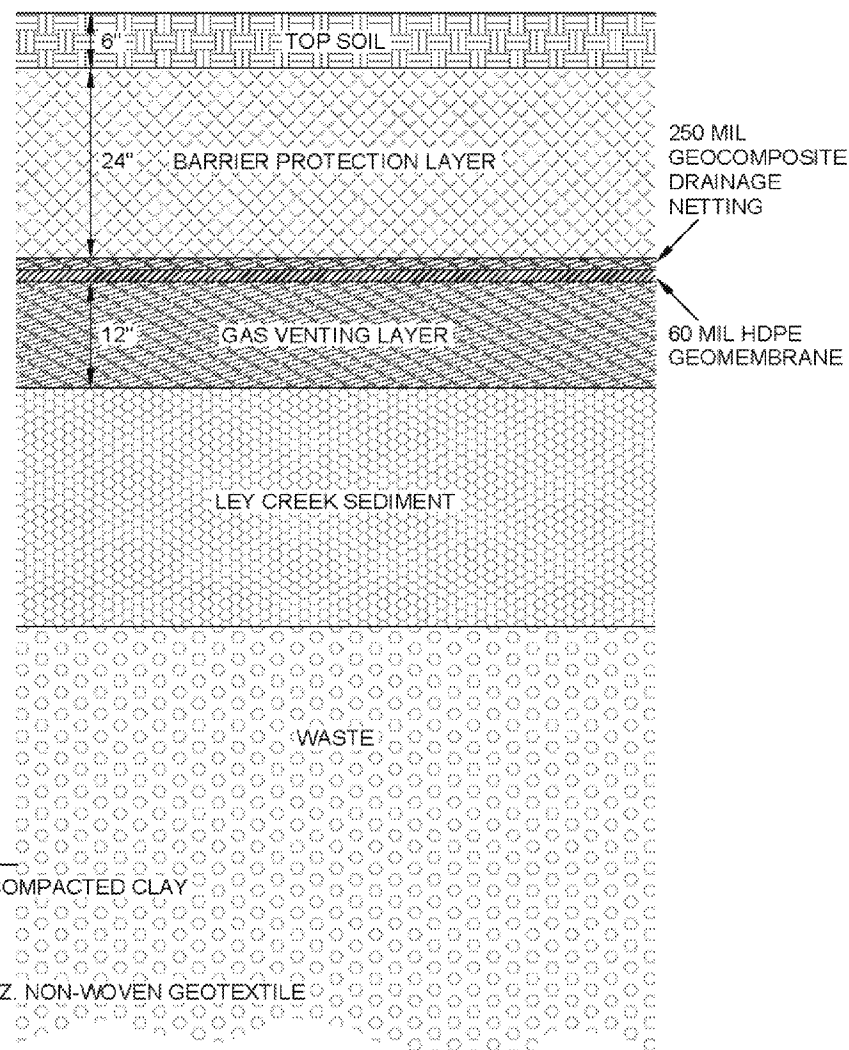
CC-H North Landfill w/Leachate Collection Cost Estimate

Ley Creek Sediment Disposal and Cap Supplement	Estimated Costs
Construction Costs	
Liner & Leachate Collection System	\$1,261,000
Leachate Treatment System	\$100,000
Supplemental Cap Costs to Accommodate Ley Creek Sediment	\$200,000
Subtotal	\$1,561,000
Engineering & Legal Costs	
Engineering Design	\$70,000
Engineering Construction Oversight	\$55,000
Legal	\$25,000
Subtotal	\$150,000
Total Capital Cost	\$1,711,000
(1) Placement of 150K cyds Ley Creek Sediment is estimated at \$660,000 additional	

ANNUAL OM&M COSTS - NORTH CC-H LANDFILL	Rate	Units	Quantity	Extension
Groundwater Sampling	\$1,000	Event	4	\$4,000
Surface Water Sampling	\$750	Event	4	\$3,000
Methane Gas Monitoring	\$500	Event	4	\$2,000
Cap & Fence Repairs	\$4,000	Annual	1	\$4,000
Mowing	\$2,500	Lot	1	\$2,500
Wetlands Replanting	\$1,250	Annual	1	\$1,250
Annual Progress Report	\$5,000	Annual	1	\$5,000
Annual Cost Total				\$21,750
Net Present Worth (30 Years and 1.68% Discount Rate ¹)				\$509,255
Leachate collection, sampling, disposal	\$25,000	Lot	2	\$50,000
Total OM&M Costs				\$559,255

¹ Average of 2008 - 2014 Superfund Interest Rates

Plan View



Cross-Section View

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Town of Salina Landfill Proposal Cost Estimate (June 6, 2014)

Removal, Sediment Disposal, and Replacement of Cap	Estimated Costs
Construction Costs	
Removal of current cover materials and membrane	\$500,000
Placement/Grading of 200,000 CY	\$1,360,000
Re-capping and replacement of cover materials (\$200,000/acre)	\$2,200,000
Subtotal	\$4,060,000
Engineering and Legal Costs	
Engineering Design (5% of Construction)	\$203,000
Engineering Construction Oversight (6% of construction)	\$243,600
Legal	\$50,000
Subtotal	\$496,600
Total Cost for Removal, Sediment Disposal and Replacement of Cap	\$4,556,600

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Town of Salina O&M Proposal Cost Estimate (June 6, 2014)

(Town Requests Full O&M amount of \$2,715,530 be paid up front)

SALINA LANDFILL ESTIMATED POST-CLOSURE COSTS					
Estimate Prepared 2/26/2013					
Years 1-5					
Item Description	Unit	Unit Cost	Quant.		Comments
Environmental Monitoring	YR	\$52,510.00	1	\$52,510.00	Includes laboratory, labor & reporting costs
	Annual Cost			\$52,510.00	
	Subtotal Present Net Worth			\$215,301.37	
Years 6-7					
Item Description	Unit	Unit Cost	Quant.		Comments
Environmental Monitoring	YR	\$28,010.00	1	\$28,010.00	Includes laboratory, labor & reporting costs
	Annual Cost			\$28,010.00	
	Subtotal Present Net Worth			\$50,642.59	
Years 8-10 and Year 15, 20, 25, and 30					
Item Description	Unit	Unit Cost	Quant.		Comments
Environmental Monitoring	YR	\$15,760.00	1	\$15,760.00	Includes laboratory, labor & reporting costs
	Annual Cost			\$15,760.00	
	Subtotal Present Net Worth			\$84,935.20	
Years 1-30					
Item Description	Unit	Unit Cost	Quant.		Comments
Landfill Cap and Monitoring					
Mowing of Cap	YR	\$2,000.00	1	\$2,000.00	
Snow Removal	YR	\$2,000.00	1	\$2,000.00	
Annual repairs to cap/fence/access roads	YR	\$2,000.00	1	\$2,000.00	
Leachate Pre-treatment Plant					
Labor, Utilities, Materials & Maintenance	Month	\$9,850.00	12	\$118,200.00	
OCDWEP Charge for Metro WWTP Treatment	Unit	\$358.68	65.18	\$23,378.76	Unit = 140,000 gallons, so 25,000 gpd*365 days per yr/140,000 gallons = 65.18 units
Laboratory Testing (25,000 gpd)	Month	\$1,290.00	12	\$15,480.00	
Carbon	Month	\$1,000.00	12	\$12,000.00	
Bag Filters	Month	\$1,000.00	12	\$12,000.00	
Dewatered Sludge Hauling & Disposal	Ton	\$500.00	1	\$500.00	
Collection Trench/Force Main Cleaning	YR	\$3,000.00	1	\$3,000.00	Assume \$1,000 for engineering oversight & \$2,000 for subcontractor
	Annual Cost			\$190,558.76	
	Subtotal Present Net Worth			\$2,364,651.53	
Total Present Net Worth				\$2,715,530.69	Settlement

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CC-H Technical Questions/Comments

- **Town of Salina landfill** proposal does not include any separation, liner or leachate collection between the existing waste and the proposed Ley Creek sediments. There is a downgradient leachate/groundwater collection trench along Ley Creek.
- **Ley Creek Sediment volume** (150,000 – 200,000 CY)
- **Moisture content of Ley Creek sediment** (affects amount of potential leachate generation)
- **Placement duration and summer time frame** (affects amount of precipitation infiltration [leachate generation] until cap is installed)
- **Timing** (coincident with or after CC-H North Landfill construction)
- **Landfill subgrade stability** (waste has been in place for 25 years so settlement should be minimal; use as base for proper waste grade 1-2 foot lifts, compaction and testing) will enhance landfill stability
- **PCB Ley Creek TSCA** waste taken off-site for disposal.
- **Technical meeting** with EPA/NYSDEC to discuss landfill options?

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